

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1. (Currently Amended) A phase modulation apparatus that generates a phase modulation signal by performing phase modulation on an input signal, said phase modulation apparatus comprising:

a modulation signal generation section that generates a first baseband modulation signal and a second baseband modulation signal based on said input signal;

a phase locked loop PLL circuit; and

a switching section that switches between having said phase locked loop PLL circuit generate a phase modulation signal by performing 1-point modulation and ,or generate a phase modulation signal by performing 2-point modulation, by switching between inputting said first baseband modulation signal and ,or inputting said first baseband modulation signal and said second baseband modulation signal, to said phase locked loop PLL circuit, according to a communication mode setting signal that is inputted identifying one of a plurality of communication system modes.

2. (Currently Amended) The phase modulation apparatus according to claim 1, further comprising a determination section that performs a comparative determination of a size relationship of a modulation bandwidth corresponding to said a communication mode setting

signal and a bandwidth of said phase locked loop PLL circuit, and that sends a first control signal according to a result of determination, to said switching section,

wherein said switching section performs switching according to said first control signal.

3. (Currently Amended) The phase modulation apparatus according to claim 2, wherein:
said determination section sends a second control signal based on said modulation bandwidth corresponding to said communication mode setting signal to a loop filter that is a component of said phase locked loop PLL circuit; and
 said loop filter changes its own resonance frequency based on said second control signal sent from said determination section, and changes said a bandwidth of said phase locked loop PLL circuit.

4. (Currently Amended) The phase modulation apparatus according to claim 3 2, wherein
said determination section sends said second control signal based on said modulation bandwidth corresponding to said communication mode setting signal to a reference frequency divider that provides a reference signal to a phase comparator of said phase locked loop PLL circuit and a division ratio generation section that generates a division ratio of said phase locked loop PLL circuit, changes an oscillation frequency of said ~~reference frequency divider and a division ratio of said~~ division ratio generation section, and changes said a bandwidth of said phase locked loop PLL circuit.

5. (Currently Amended) The phase modulation apparatus according to claim 2, wherein:

said communication system modes comprise are of two kinds of communication modes represented by a global system for mobile mode and a universal mobile telecommunication system mode, ~~GSM mode and UMTS mode~~; and

said determination section sends a control signal as said first control signal to said switching section so that 1-point modulation is performed in said global system for mobile GSM mode, and sends a control signal as said first control signal to said switching section so that 2-point modulation is performed in said universal mobile telecommunication system UMTS mode.

6. (Currently Amended) The phase modulation apparatus according to claim 2, wherein:

said communication system modes comprise are of two kinds of communication modes represented by a global system for mobile mode and a universal mobile telecommunication system mode, ~~GSM mode and UMTS mode~~; and

said determination section sends a control signal as said first control signal to said switching section so that 1-point modulation is performed in said global system for mobile GSM mode, and in said universal mobile telecommunication system UMTS mode, sends a control signal as said first control signal to said switching section so that 2-point modulation is performed, and also sends said second a control signal to a loop filter and changes said a bandwidth of said phase locked loop PLL circuit in a wideband direction.

7. (Currently Amended) The phase modulation apparatus according to claim 3, wherein:

said communication system modes comprise are of three kinds of communication modes represented by a global system for mobile mode, a wireless personal area network mode, and a universal mobile telecommunication system mode , GSM mode, Bluetooth mode, and UMTS mode; and

said determination section sends a control signal to said switching section so that 1-point modulation is performed in said global system for mobile GSM mode, and in said wireless personal area network Bluetooth mode, sends a control signal to said switching section so that 2-point modulation is performed, and also sends said second a control signal to said a loop filter and changes said a bandwidth of said phase locked loop PLL circuit in a wideband direction; and in said universal mobile telecommunication system UMTS mode, sends a control signal to said switching section so that 2-point modulation is performed, and also sends said second a control signal to said a loop filter and changes said a bandwidth of said phase locked loop PLL circuit further in a wideband direction than in case of said wireless personal area network Bluetooth mode.

8. (Original) A communication device that incorporates the phase modulation apparatus according to claim 1.

9. (Original) A mobile radio device that incorporates the phase modulation apparatus according to claim 1.

10. (Currently Amended) A phase modulation method that generates a phase modulation signal by performing phase modulation on a transmit signal, said phase modulation method comprising:

a step of inputting a communication mode setting signal identifying one of a plurality of communication system modes and performing a comparative determination of a size relationship of a modulation bandwidth corresponding to said communication mode setting signal of a communication mode and a bandwidth of a phase locked loop PLL circuit;

a step of switching said phase locked loop PLL circuit to 1-point modulation when said a modulation bandwidth corresponding to said communication mode setting signal of a communication mode is narrowband compared with said a bandwidth of said phase locked loop PLL circuit, and switching said phase locked loop PLL circuit to 2-point modulation when a modulation bandwidth corresponding to said communication mode setting signal of said communication mode is wideband compared with said a bandwidth of said phase locked loop PLL circuit; and

a step of, when said phase locked loop PLL circuit is switched to 2-point modulation, changing a resonance frequency of a loop filter of that phase locked loop PLL circuit and changing a bandwidth of said phase locked loop PLL circuit in a wideband direction.

11. (Currently Amended) A phase modulation method that generates a phase modulation signal by performing phase modulation on a transmit signal, said phase modulation method comprising:

a step of inputting a communication mode setting signal identifying one of a plurality of communication system modes and performing a comparative determination of a size relationship of a modulation bandwidth corresponding to said communication mode setting of a communication mode and a bandwidth of a phase locked loop PLL circuit;

a step of switching said phase locked loop PLL circuit to 1-point modulation when a modulation bandwidth corresponding to said communication mode setting signal of a communication mode is narrowband compared with said a bandwidth of said phase locked loop PLL circuit, and switching said phase locked loop PLL circuit to 2-point modulation when a modulation bandwidth corresponding to said communication mode setting signal of said communication mode is wideband compared with said a bandwidth of said phase locked loop PLL circuit; and

a step of, when said phase locked loop PLL circuit is switched to 2-point modulation, changing a reference frequency of that phase locked loop PLL circuit and changing said a bandwidth of said phase locked loop PLL circuit in a wideband direction.